OAH Docket No. 1-0210-15561-1

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS

FOR THE DEPARTMENT OF ADMINISTRATION
Building Codes and Standards Division

In the Matter of the Proposed Rules Governing the Adoption of the 2000 International Mechanical Code and the 2000 International Fuel Gas Code, Minnesota Rules, Chapter 1346.	**ORDER ON REVIEW OF RULES UNDER MINNESOTA STATUTES, SECTION 14.16**

The Building Codes and Standards Division of the Department of Administration (Department or Agency) seeks to adopt the above-entitled rules pursuant to Minnesota Statutes, Section 14.16. Public hearings were held in this matter on November 13, 2003, and February 6, 2004. The Department submitted documents required by Minnesota Statutes, Section 14.14 and Minnesota Rules, Part 1400.2220. The comment period ended February 26, 2004, and the rebuttal period ended and the hearing record closed on March 4, 2004. On March 30, 2004, the Administrative Law Judge issued the Report of the Administrative Law Judge pursuant to Minnesota Statutes, Section 14.15. As set forth in the Report, portions of the rules were disapproved.

Based upon a review of the written submissions and filings, Minnesota Statutes, Minnesota Rules, and the Report of the Administrative Law Judge pursuant to Minnesota Statutes, Section 14.15,

IT IS HEREBY ORDERED: that the findings of the Administrative Law Judge in the Report of the Administrative Law Judge dated March 30, 2004, regarding the disapproval of portions of the rules are approved. The reasons for the disapproval of the rule and the changes recommended to correct the defects found are as set forth in the attached Report.

Dated this 1st day of April, 2004.

S/ Raymond R. Krause_____
RAYMOND R. KRAUSE
Chief Administrative Law Judge

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REPORT OF THE ADMINISTRATIVE LAW JUDGE

Administrative Law Judge George A. Beck conducted a hearing regarding the above rules beginning at 9:30 a.m. on November 13, 2003, in Conference Rooms B and C in the offices of the Building Codes and Standards Division, 408 Metro Square Building, 121 East 7th Place, St. Paul, Minnesota 55101. The hearing was continued for a second day and held at 9:30 a.m. on February 6, 2004, in the same location. Both hearings continued until all interested persons, groups and associations had an opportunity to be heard concerning the proposed rules.

The hearings and this report are part of a rulemaking process that must occur under the Minnesota Administrative Procedure Act[1] before an agency can adopt rules. The legislature has designed this process to ensure that state agencies have met all the requirements that Minnesota law specifies for adopting rules. Those requirements include assurances that the proposed rules are necessary and reasonable, that they are within the agency's statutory authority, and that any modifications of the rules made after their initial publication do not result in rules that are substantially different from those originally proposed.

The rulemaking process also includes a hearing when the rules are controversial or when an agency receives 25 or more requests for a hearing. The hearing is intended to allow the agency and the Administrative Law Judge (ALJ) reviewing the proposed rules to hear public comment regarding the impact of the proposed rules and what changes might be appropriate. The ALJ is employed by the Office of Administrative Hearings, an agency independent of the Department of Administration, Building Codes and Standards Division (Department).

Colleen D. Chirhart, Rules Coordinator and Thomas C. Anderson, Assistant Director, Building Codes and Standards Division, 408 Metro Square Building, 121 East 7th Place, St. Paul, MN 55101; Tim Manz, University Mechanical Inspector, Building

Code Division, 270 Donhowe Building, 319 – 15th Avenue S.E., Minneapolis, MN 55455; and Amy V. Kvalseth, Assistant Attorney General, 1800 NCL Tower, 445 Minnesota Street, St. Paul, MN 55101, presented the Department's position and answered questions at the hearings. Approximately 35 persons attended the November 13 hearing and 35 signed the hearing register. Twelve people spoke at the hearing. Approximately 54 persons attended the February 6 hearing and each person signed the hearing register. Twenty-one people spoke at the hearing.

Three public comments were submitted before the November hearing. After the hearing ended, the Administrative Law Judge kept the record open for 20 calendar days until December 3, 2003, to allow interested persons and the Department an opportunity to submit written comments. During this initial comment period the ALJ received 19 public comments. Following the continued hearing, the hearing record remained open until February 26, 2004. Ten more comments were received. After the initial comment period, the Administrative Procedure Act requires that the hearing record remain open for another five business days to allow interested parties and the agency to respond to any written comments. The agency filed a response dated February 26, 2004. The hearing record closed for all purposes on March 4, 2004.

Based upon all the testimony, exhibits and written comments, the Administrative Law Judge makes the following:

FINDINGS OF FACT

Procedural Requirements

1. On July 10, 2000, the Department published a Request for Comments on Planned Amendments to Rules Governing the Minnesota State Building Code in the *State Register*.[2] The request indicated that the Department was considering the adoption of a model Mechanical Code, as well as the amendment of several other sections of the State Building Code. The Request for Comments was published at 25 *State Register* 62-63.[3]

2. A second Request for Comments was published on August 6, 2001, regarding the adoption of the 2000 International Mechanical Code (IMC) and the 2000 International Fuel Gas Code (IFGC), among other issues.[4] The second Request for Comments was published at 26 *State Register* 124-25.[5]

3. By letter dated September 12, 2003, the Department requested that the Office of Administrative Hearings schedule a rule hearing, assign an Administrative Law Judge and approve the Additional Notice Plan. The Department also filed a proposed Notice of Hearing, a copy of the proposed rules and the draft Statement of Need and Reasonableness (SONAR).

4. In a letter dated September 22, 2003, Administrative Law Judge George A. Beck approved the Notice of Hearing and Additional Notice Plan.

5. On September 23, 2003, the Department mailed a copy of the Statement of Need and Reasonableness to the Legislative Reference Library.[6]

6. On September 24, 2003, the Department mailed the Notice of Hearing to all persons and associations who had registered their names with the agency for the purpose of receiving such notice, all building officials, the former members of the Construction Codes Advisory Council, and the Metropolitan Council as referenced in the additional notice plan.[7]

7. Also on September 24, 2003, the Department mailed the Notice of Hearing, proposed rules and the Statement of Need and Reasonableness to the legislators as specified in Minn. Stat. § 14.116.[8]

8. On October 6, 2003, the Notice of Hearing was published at 28 *State Register* 413-67.[9]

9. On the day of the November 13, 2003 hearing the following documents were placed in the record:

a. Request for Comments as published in the State Register on July 10, 2000 (Exhibit A)
b. Second Request for Comments as published in the State Register on August 6, 2001 (Ex. B)
c. The Proposed Rule, including the Revisor's approval (Ex. C)
d. The Statement of Need and Reasonableness (Ex. D)
e. Certificate of Mailing the Statement of Need and Reasonableness to the Legislative Reference Library (Ex. E)
f. The Notice of Hearing as mailed and published in the State Register (Ex. F)
g. Certificate of Mailing the Notice of Hearing to the Rulemaking List (Ex. G)
h. Certificate of Mailing the Notice of Hearing to the Building Official List (Ex. H)
i. Certificate of Mailing the Notice of Hearing to the Former Members of the Construction Codes Advisory Council List (Ex. I)
j. Certificate of Mailing the Notice of Hearing to the Metropolitan Council (Ex. J)
k. Two written comments received during the comment period (Ex. K)
l. Certificate of Sending Notice to Legislators (Ex. L)
m. Matrix for Comparison Criteria of the 2000 Uniform Mechanical Code and the 2000 International Mechanical Code (Ex. M)
n. Analysis of the 2000 Uniform Mechanical Code and the 2000 International Mechanical Code Matrix (Ex. N)
o. Commissioner Fisher's September 14, 2001 Model Mechanical Code Recommendation Letter to affected parties (Ex. O)
p. Agency's editorial changes to the rule since it was mailed and posted on the Agency's web site (Ex. P)

q. Testimony of Colleen Chirhart (Ex. Q)
r. Testimony of Thomas Anderson (Ex. R)
s. Mechanical Code Public Hearing Technical Outline Presented by Tim Manz (Ex. S)

The Department did not provide a certificate of accuracy of its mailing lists, but the Administrative Law Judge finds this to be a harmless error.

10. At the November 13, 2003 hearing, an attorney representing a coalition of contractors and skilled workers questioned the adequacy of the SONAR and requested a continuance of the hearing until the Department submitted a revised SONAR. The Department did not contest the request. In a letter dated November 19, 2003, the Administrative Law Judge granted the motion and continued the hearing to February 6, 2004.

11. On January 2, 2004, the Department mailed the Notice of Continuance of Hearing and the modifications to the proposed rules beyond those submitted at the November hearing to all persons and associations who had registered their names with the agency for the purpose of receiving such notice, all building officials, the former members of the Construction Codes Advisory Council, and the Metropolitan Council as referenced in the additional notice plan.[10]

12. Also on January 2, 2004, the Department mailed the Notice of Continuance of Hearing and the modifications to the proposed rules beyond those submitted at the November hearing to the legislators specified in Minn. Stat. § 14.116.[11]

13. On the day of the continued hearing the following documents were placed into the record:

t. Notice of Continuance of Hearing and Modifications to the proposed rules beyond those submitted at public hearing on November 13, 2003 (Ex. T)
u. Modifications to the proposed rules beyond those submitted with the Notice of Continuance of Hearing (Ex. U)
v. Revised Statement of Need and Reasonableness (Ex. V)
w. Matrix for Comparison Criteria of the 2000 Uniform Mechanical Code and the 2000 International Building Code (Ex. W)
x. Certificate of Mailing the Notice of Continuance of Hearing to Rulemaking Mailing List (Ex. X)
y. Certificate of Mailing the Notice of Continuance of Hearing to the Division's Building Official Mailing List (Ex. Y)
z. Certificate of Sending Notice to Legislators (Ex. Z)
aa. Certificate of Mailing the Notice of Continuance of Hearing to Former Members of the Construction Codes Advisory Council (Ex. AA)

bb. Certificate of Mailing the Notice of Continuance of Hearing to Metropolitan Council (Ex. BB)

The Department did not provide evidence that it mailed the revised SONAR to the Legislative Reference Library. The Administrative Law Judge finds this to be a harmless error, but recommends that the Department provide the Library a copy of the revised SONAR if it has not already done so.

Nature of the Proposed Rules

14. The Department seeks to adopt, by reference and with amendments, the 2000 IMC and the 2000 IFGC. These "I" Codes are part of a family of codes promulgated by the International Code Council (ICC). These proposed rules are the result of the need to update the 1991 Uniform Mechanical Code (UMC), which has been in use in Minnesota since 1994.

15. The UMC, published jointly by the International Conference of Building Officials (ICBO) and the International Association of Plumbing & Mechanical Officials (IAPMO) until 1994, was originally the only code under consideration. But since 1994, ICBO and IAPMO have published independent versions of the code. In 2000, IAPMO published the 2000 UMC and ICBO published the 2000 IMC. The Minnesota Mechanical Code Advisory Committee (MCAC) reviewed both the UMC and IMC, with a focus on compatibility with other "I" Codes slated for adoption.[12] After more than 60 hours of meetings and after developing an extensive comparison matrix, on May 29, 2001, the MCAC voted to recommend adoption of the UMC over the IMC on a vote of 10 to 9, with one abstention. Because the vote was so close, the Department sent the matter to the Commissioner, pursuant to its statutory authority, for further review. The Commissioner held a meeting with affected industry representatives and, on September 14, 2001, decided that the IMC, along with the IFGC, should replace the 1991 UMC. He directed the MCAC to incorporate the best practices of the UMC into the 2000 IMC.[13]

Statutory Authority

16. The Department relies upon the general rulemaking authority of Minnesota Statutes § 16B.59, which requires the commissioner to administer and amend a state building code for the construction and repair of buildings that provides "basic and uniform performance standards" and secures the health and security of the residents of Minnesota at the "least possible cost consistent with recognized standards of health and safety."

Furthermore, Minnesota Statutes § 16B.61, subdivision 1 provides:

> [S]ubject to sections 16B.59 to 16B.75, the commissioner shall by rule establish a code of standards for the construction, reconstruction, alternation, and repair of buildings, governing matters of structural materials, design and construction, fire protection, health, sanitation, and safety, including design and construction

> standards regarding heat loss control, illumination, and climate control. The code must also include duties and responsibilities for code administration, including procedures for administration action, penalties, and suspension and revocation of certification. The code must conform insofar as practicable to model building codes generally accepted and in use throughout the United States, including a code for building conservation. In the preparation of the code, consideration must be given to the existing statewide specialty codes presently in use in the state. Model codes with necessary modification and statewide specialty codes may be adopted by reference. The code must be based on the application of scientific principles, approved tests, and professional judgment. To the extent possible, the code must be adopted in terms of desired incorporation of specifications of particular methods or materials. To that end the code must encourage the use of new methods and new materials. Except as otherwise provided in sections 16B.59 to 16B.75, the commissioner shall administer and enforce the provisions of those sections.

Finally, Minnesota Statutes § 16B.65, subdivision 3 requires the commissioner to "provide educational programs designed to train and assist building officials in carrying out their responsibilities."[14]

17. The Department has established its general statutory authority to adopt rules in this area.

Regulatory Analysis in the SONAR

18. The Administrative Procedure Act requires an agency adopting rules to consider seven factors in its Statement of Need and Reasonableness.[15] The first factor requires:

> **(A) A description of the classes of persons who probably will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule.**

The Department lists those affected by the rules as municipal building officials, mechanical inspectors, engineers, designers, mechanical system manufacturers and/or suppliers, mechanical contractors, building owners and managers, and the general public.[16]

The Department predicts that a core group of building officials, mechanical design professionals, and mechanical contractors will most directly bear the cost of this proposed rule through education and training. Another, less affected group, is comprised of "skilled workers who install equipment, such as gas piping, sheet metal, furnaces, venting, etc., as directed by the contractor and/or as directed in the engineered drawing. Therefore, a complete knowledge and understanding of the code is not primary to their jobs."[17] (This statement generated a significant response from commenters and will be addressed under the General Objections to the Rules.) In

keeping with its statutory obligations, the Department presented seminars on the 2000 IMC and IFGC at 11 locations around the state. The seminar fee was $35 per attendee.[18]

Those classes most likely to benefit from the new code are mechanical equipment designers, installers, building owners, lessees, tenants, and the general public.

(B) The probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues.

The Department does not anticipate that the proposed rule will create additional costs for it or any other state agency or that it will have any significant impact on state revenues.[19]

(C) A determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule.

The proposed rules incorporate a model code by reference and make necessary modifications to address specific conditions or situations within Minnesota. By adopting a model code, the Department avoids the costly alternative of drafting a code from scratch, an option rife with potential pitfalls.[20] The Department sees no less intrusive method short of not having a mechanical code in place in the state.

(D) A description of any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule.

The Department performed a careful analysis of the UMC and the IMC/IFGC based upon the information generated by the MCAC.[21] The MCAC's mission was to review the 2000 UMC and the 2000 IMC in conjunction with the 2000 IFGC and NFPA 54 to determine which code best fit the needs of the state. A major component of the review was an analysis of the compatibility of the codes with other codes slated for adoption, such as the IBC (building), IRC (residential), and IFC (fire). The MCAC developed a comparison matrix identifying issues critical to the mechanical code industry and explored whether those issues were already present in the UMC and IMC. The matrix also analyzed each issue as to safety/durability, clarity, code compatibility, and cost. A major part of the MCAC's evaluation involved examining the matrix to determine which code could be adopted in Minnesota with the fewest number of amendments in relation to the international building (IBC) and fire (IFC) codes. An evaluation of necessary technical amendments and necessary coordination amendments demonstrated 95 necessary amendments as to the UMC and 33 necessary amendments as to the IMC.[22] The MCAC also undertook a survey of surrounding states to see what codes were in use or under consideration at the time.

The results showed that the IMC was adopted statewide in North Dakota, about to be adopted in Wisconsin, and under review by large cities in Iowa and South Dakota.

As a result, the MCAC found that the IMC and IFGC were the favorable choices based upon the smaller number of amendments necessary, coordination with other codes adopted in the state, consistency with Minnesota statutes, tendency to save construction costs, and a nationwide trend to adopt a family of compatible codes.

When the MCAC's vote, 10 to 9 in favor of the UMC, did not reflect the outcome of its analysis, the commissioner of administration took over the evaluation of the two codes. The commissioner held more than a dozen meetings with Department staff and members representing the trade, as well as members of the legislature. After extensive consideration, the commissioner chose the IMC over the UMC because Minnesota's mechanical code was long overdue for an update, the IMC was generally accepted and in use throughout the United State, the "I" Codes are a coordinated set of codes and the UMC has evolved away from a uniform body of codes, the IMC's focus on performance-based standards, the IMC required fewer amendments, widespread use of the IMC in states or large cities adjacent to Minnesota, and the need to print new code books regardless of which code was chosen.[23]

(E) The probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals.

In addition to the costs and benefits described above, the Department predicts that the probable costs of complying with the IMC will result in negligible increased costs associated with updating equipment, control devices, and materials to keep up with industry standards and trends.[24] The Department does acknowledge that additional costs will be incurred in education and training on the new code, but argues that these costs would be incurred regardless of whether the IMC or the UMC is adopted since the current code has not been updated since 1994.

(F) The probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals.

The Department states that failure to adopt the proposed rules will result in an outdated, uncoordinated, and highly amended mechanical code, which does not adequately address the latest technological advances in the HVAC industry.[25] See regulatory factor D.

(G) An assessment of any differences between the proposed rule and existing federal regulations and a specific analysis of the need and reasonableness of each difference.

There are no federal regulations that require a mechanical code or fuel gas code or specific provisions within the mechanical code.

19. The Department, after revising the SONAR, has satisfied the requirements of Minn. Stat. § 14.131, which requires it to ascertain the above information to the extent the Department can do so through reasonable effort. However, see also the discussion of the SONAR requirements under General Objections, including Finding of Fact Nos. 56 and 74.

Performance Based Rules

20. The Administrative Procedure Act also requires an agency to describe how it has considered and implemented the legislative policy supporting performance- based regulatory systems.[26] A performance-based rule is one that emphasizes superior achievement in meeting the agency's regulatory objectives and maximum flexibility for the regulated party and the agency in meeting those goals.[27]

21. The Department stressed the "I" Codes' "performance" format, which contains minimal prescriptive requirements and sets design goals, while avoiding, whenever possible, the specification of particular methods or materials. By contrast, the Department believes that the UMC is more prescriptive in nature, allowing for less flexibility in design, methods, and materials.[28] It points to IAPMO member Allen Inlow's statement that the "Uniform Mechanical Code is written and maintained in the historically proven prescriptive format."[29]

Additional Notice

22. In addition to the mailed and published notice required by statute, including numerous trade associations, the Department also mailed a copy of the notice and proposed rules to all municipal code officials and others responsible for code administration across the state, members of the former Construction Codes Advisory Council, and the Metropolitan Council.

23. A copy of the notice, the proposed rules and the SONAR were also published on the Department's web page.

Rulemaking Legal Standards

24. Under Minn. Stat. § 14.14, subd. 2, and Minn. Rule 1400.2100, in a rulemaking proceeding, the Administrative Law Judge must determine whether the agency has established the need for and reasonableness of the proposed rule by an affirmative presentation of facts. In support of a rule, an agency may rely on legislative facts, namely general facts concerning questions of law, policy and discretion, or it may simply rely on interpretation of a statute, or stated policy preferences.[30] The Department prepared a Statement of Need and Reasonableness in support of the proposed rules. At the hearing, the Department primarily relied upon the SONAR as its affirmative presentation of need and reasonableness for the proposed amendments.

The SONAR was supplemented by exhibits and comments made by agency representatives at the public hearing and in written post-hearing submissions.

25. The question of whether a rule is reasonable focuses on whether it has a rational basis, or whether it is arbitrary, based upon the rulemaking record. Minnesota case law has equated an unreasonable rule with an arbitrary rule.[31] Arbitrary or unreasonable agency action is action without consideration and in disregard of the facts and circumstances of the case.[32] A rule is generally found to be reasonable if it is rationally related to the end sought by the governing statute.[33]

26. The Minnesota Supreme Court has further defined an agency's burden in adopting rules by requiring it to "explain on what evidence it is relying and how the evidence connects rationally with the agency's choice of action to be taken."[34] An agency is entitled to make choices between possible approaches as long as the choice made is rational. It is not the proper role of the Administrative Law Judge to determine which policy alternative presents the "best" approach since this would invade the policy-making discretion of the agency. The question is rather whether the choice made by the agency is one that a rational person could have made.[35]

27. In addition to need and reasonableness, the Administrative Law Judge must also assess whether the rule adoption procedure was complied with, whether the rule grants undue discretion, whether the Department has statutory authority to adopt the rule, whether the rule is unconstitutional or illegal, whether the rule constitutes an undue delegation of authority to another entity, or whether the proposed language is not a rule.[36]

28. In this matter, the Department has proposed some changes to the rule language after publication in the State Register. Thus, the Administrative Law Judge must also determine if the new language is substantially different from that which was originally proposed.[37]

29. The standards to determine if new language is substantially different are found in Minn. Stat. § 14.05, subd. 2. The statute specifies that a modification does not make a proposed rule substantially different if "the differences are within the scope of the matter announced … in the notice of hearing and are in character with the issues raised in that notice," the differences "are a logical outgrowth of the contents of the … notice of hearing and the comments submitted in response to the notice," and the notice of hearing "provided fair warning that the outcome of that rulemaking proceeding could be the rule in question."

30. In determining whether modifications make the rules substantially different, the Administrative Law Judge is to consider whether "persons who will be affected by the rule should have understood that the rulemaking proceeding … could affect their interests," whether "the subject matter of the rule or issues determined by the rule are different from the subject matter or issues contained in the … notice of hearing," and whether "the effects of the rule differ from the effects of the proposed rule contained in the … notice of hearing."[38]

31. Any substantive language that differs from the rule as published in the *State Register* has been assessed to determine whether the language is substantially different. Because some of the changes are not controversial, not all of the altered language has been discussed. Any change not discussed is found to be not substantially different from the rule as published in the *State Register*.

Analysis of the Proposed Rules

32. This report is limited to discussion of the portions of the proposed rules that received significant comment or otherwise need to be examined. All of the public comments were fully considered. A detailed discussion of the proposed rules is unnecessary when the proposed rules are adequately supported by the SONAR or the Department's oral or written comments, and there is no public opposition. The agency has demonstrated the need for and reasonableness of all rule provisions not specifically discussed in this report by an affirmative presentation of facts. All provisions not specifically discussed are authorized by statute and there are no other problems that would prevent the adoption of the rules.

General Objections to the Rules

33. There were several general areas of contention that surfaced during the hearings and the comment periods.[39]

Adequacy of the Statement of Need and Reasonableness

34. Under Minnesota law, agencies engaged in rulemaking, with or without a hearing, must make "an affirmative presentation of facts" which establishes "the need for and reasonableness of the proposed rule."[40] At the first hearing and in subsequent written comments, David H. Johnson, representing a coalition of contractors and skilled workers, argued that the Department's SONAR was inadequate. Mr. Johnson's assertions include that (1) the Department failed to justify why the U-Code should be repealed,[41] (2) the Department failed to "individually justify each of the approximately 160 rules it proposes to adopt, amend and repeal,"[42] (3) the Department "provides no evidence of the costs to the Agency and the State of implementing and enforcing the IMC and IFGC" and scant evidence of the probable costs to skilled labor[43] and (4) that the Department failed to discuss whether there was a less costly or intrusive method for incorporating a model code by reference than repealing the current code and replacing it with a new model code.[44]

35. Mr. Johnson states that the Department has failed to justify why the U-Code should be repealed.[45] "The statement of need and reasonableness must summarize the evidence and argument that the agency is relying on to justify…the need for…the proposed rules…."[46] Additionally, "the agency must explain what circumstances have created the need for the rule or its amendments which required administrative action and why the proposed rulemaking action is an appropriate solution for meeting the need."[47] The statutory charge to the Department states that the codes shall "provide for the use of modern methods, devices, materials, and techniques which

will in part tend to lower construction costs."[48] The Revised SONAR states "the current 1991 Uniform Mechanical Code typically requires antiquated methods and technologies that are more expensive and less efficient,"[49] and that not adopting a code would be unsafe and irresponsible.[50] The agency points out that the decision to replace the 1991 UMC was never in dispute.[51] A detailed rule-by-rule discussion of why the present Code should be replaced would essentially duplicate what is presented in support of the proposed Code and would be a hypertechnical interpretation of the APA requirements with little apparent benefit to the public. The repeal of a rule without it being replaced would require more support.

36. Mr. Johnson also argues that the Department must separately justify each of the rules it proposes to adopt including all provisions of the IMC and the IFGC.[52] Although that is the normal requirement, the Department has legislative authorization that permits it to adopt model codes by reference. It provides that "The code must conform insofar as practicable to model building codes generally accepted and in use throughout the United States… ." and that "Model codes with necessary modifications and statewide specialty codes may be adopted by reference."[53] The agency adopted a model code by reference and then supported its proposed amendments to the IMC in this proceeding.

37. Mr. Johnson states that the Department is required to provide evidence of the costs to the Agency and the State of implementing and enforcing the IMC and IFGC, and of the costs to end users, such as skilled labor.[54] Mr. Johnson states that this lack of evidence does not allow interested persons the ability to prepare testimony or evidence in opposition to the rules proposed.[55] The agency did amend its SONAR to provide more detail. And the hearing was continued to allow commenters to prepare. Many commentators were able to develop a cost analysis of transitioning to the I-Code. Specifically, Roger Garner, Jay Peters, and Jack Hettwer spoke at the hearing and addressed the cost to their associations of implementing the I-Code.[56]

38. The Minnesota Administrative Procedure Act requires the Department to consider six factors in its SONAR, including "the probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues…."[57] The SONAR states that there "are no anticipated additional costs to this agency…in the implementation and enforcement of these rules."[58] The Agency apparently does not contemplate that its ongoing training costs will increase. The Department is also required to consider "the probable costs of complying with the proposed rule… that will be borne by identifiable categories of affected parties, such as….individuals…."[59] This requirement is discussed below.

39. The Department is required to include in the SONAR "a determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule."[60] The SONAR compares the method of adopting a model code to the method of drafting a mechanical code from scratch.[61] This section of the SONAR does not state whether updating the existing code (which is different than drafting a code from scratch) is a less costly or intrusive method than adopting an entirely new code. However, the next section (alternative methods for achieving the

purpose) addresses the difference between the method of updating the existing code and the method of adopting a new code, finding that fewer amendments are needed to the IBC, IFC and IMC if the I-Code is adopted.[62] The Department has therefore included in the SONAR a determination of whether there are less costly and intrusive method for achieving the purpose of the proposed rule.

Cost of Transition to the I-Code

40. Roger Garner, a trade instructor who oversees the curriculum, instructor training and the yearly budget for the Pipefitter Local 539 Union, states that it would cost his instructors $20,601 to learn the IMC and that developing a curriculum will be an additional $20,601.[63] He estimates the cost for retraining apprentices is $122,343.05[64] and the cost for retraining current journeymen is $414,476.80.[65] The amount of money to retrain the apprentices and journeymen in local 549 alone will total at least $581,512.85. Local 549 represents 50% of the pipefitters in Minnesota.[66] However, he also acknowledges that he is not that familiar with the I-Code.[67]

41. Jay Peters, a senior director of codes and education for the International Association of Plumbing and Mechanical Officials (IAPMO), has had experience in teaching the Codes. He states that it will be more expensive to take IMC code tests, $1,428 per inspector for a 6-year period, whereas the UMC costs only $520 (not including books).[68]

42. Jack Hettwer, a training coordinator for the Minneapolis Plumbers Joint Journeyman & Apprentice Training Committee states that the current book (Minnesota State Plumbing Codebook) costs $19.95 and the UMC book costs $45, and the amendment costs $5.95 (total of $70.90). The IMC costs more than this for one of the five books it uses. Mr. Hettwer believes that it would cost $400,000 to retrain their members.

43. Allen Inlow, an IAPMO (International Association of Plumbing and Mechanical Officials) official, submitted information indicating that the State of Washington estimated that its new code would require some 2,237 new code book sets and that a new code would require an incremental cost increase for additional training classes.[69]

44. David Conover, a past Director of Codes and Standards for the American Gas Association and a current member of the ICC International Mechanical Code Change Committee states, “ICC offers many cost-sensitive educational programs via seminars, the internet and home study guides, et. cetera. For instance, training on the IMC and IFGS as adopted by Minnesota could be addressed through a one-day seminar on each of those codes. The typical cost for a one-day seminar given by ICC staff is $120 per person, and includes all workbooks and related session materials.”[70] He also states that when other states provided education on the IMC, it took about eight hours total, even when a transition from another code to the I-Codes was involved.[71] He notes that the IMC has been adopted in 31 states and the IFGC in 19 states.

45. Patrick Parsley, with the Southwest Minn. Bldg. Officials, states that contractor retraining and education are not an issue because contractors rely on the engineer or the building official.[72] Pam Swanson, a building official for the City of Baxter, states that the adoption of the IMC and IFCG is of the utmost importance to Minnesota in that 1) they have contributed financially and with manpower to develop the codes on the national level in hearings and at the state level in advisory committees. 2) Many jurisdictions have already purchased books based on advisory committee recommendations and training has already been received. Not implementing the IMC would present a big budget issue in her view.[73] Larry Huff, Chief Plans Examiner for the City of Maple Grove, agrees and states. "I believe that all the time and money that the cities and the industry have put in to the development of the I-Codes would be all for nothing if" Minnesota does not adopt the I-Codes.[74] Ernie Aden, Building Official for City of Apple Valley, states that "[t]he City of Apple Valley has already purchased code books and paid for seminars to train our four Building Inspectors in the use of the new codes."[75]

46. Steve Torell, the Building Official for Chanhassen states that "[t]he argument that the changes to the IMC will cost contractors millions of dollars to re-train their employees is simply not true. The changes to the technical requirements are minimal. The majority of contractors and people in the field don't even have code books; they are basically trained in the code requirements by the inspection personnel they come in contact with."[76]

47. The Department states that "[t]he Agency believes it is notable that the ICC will work with the State to develop a combined volume of the Minnesota Mechanical Code with related codes included and that it will be available for approximately $50. The Agency does not believe that the cost of any of the code books is a significant issue to this adoption, but this idea will maximize the savings to the mechanical industry by getting them all relevant code materials in one book. The Agency is aware that costs to industry personnel for code books varies greatly, depending on which organizations people in the industry belong to (membership and dues often entitle the member to free or reduced cost code books), which code books industry personnel currently have, and how the various publishing organizations will package these books for sale over time."[77]

48. In summary, it appears that the transition to the I-Code may be more of a burden on skilled workers than on the core group (building officials and mechanical engineers). Many in the core group receive education paid for by the Department.[78] Although skilled workers are not required by the State to be licensed, certified, trained, or to attend continuing education of any kind, many take it upon themselves to stay current on the code, typically through Union membership. As such, the Unions will sustain a heavier burden of the transition to a new code than the core group. However, the degree of burden is disputed by commenters at the rulemaking hearing. And some commenters were not certain of the exact differences between the UMC and the I-Code. This fact suggests that some of the cost estimates for training may be high. Specifically, the Department does not believe that training for the IMC will take five times as long as for the UMC as was suggested.[79] The record suggests that the IMC is

not completely different from the UMC, so that much of the material will be familiar. And there will, of course, be an expense for training no matter which code is adopted.

Level of Code Knowledge Needed by Skilled Workers

49. The Revised SONAR states that "a complete knowledge and understanding of the code is not primary to [the job of skilled workers]. The skilled workers are directed by the core group. It is essential for the core group to be educated about the code whereas the primary responsibility of the skilled workers is to learn their skill or trade."[80] Several of the commenters at the hearing expressed disagreement with this statement. The import of the comments is that more people will need to be retrained to the I-Code than the Department believes is the case, and that this will increase the cost.

50. Roger Garner, a trade instructor who oversees the curriculum, instructor training and the yearly budget for the Pipefitter Local 539 Union, states that the code is the foundation for all of the skills of the trade that are taught to apprentices and journeymen.[81] Paul Jordan, representing the New Mech Companies, states that his company has between 300-700 field employees in industrial, commercial and multifamily housing markets. He states that they rely on field staff for troubleshooting problems and that they rely on their staff to know the code and know their portion of the code in depth. Gary Thaden, member of the Minnesota Mechanical Contractors Association, states that the SONAR comment reveals how little the Department knows about the mechanical industry.

51. In response, the Department states that only "4.1% of the apprenticeship training is actual code training, leaving 95.9% as training on subject matter other than the code. This ratio supports the Agency's statement in the SONAR that 'the primary responsibility of the skilled workers is to learn their skill or trade.'"[82] "The Agency contends that a larger portion of what is being taught is a skill and the code is indirectly a part of some aspects[83] (of the training)." The Department also states that skilled workers are not required by the State to be licensed or certified, to be trained, or attend continuing education of any kind and that "[w]hile certain jurisdictions in Minnesota may require a license or competency card [for skilled workers], many jurisdictions do not."[84] The Department states that only the core group is required by the state to exhibit knowledge of the code by virtue of a certification or a license.[85]

52. However, Marty Strub, an employee of the Sheetworkers Joint Labor/Management Committee, states that "workers seldom have any on-site supervision and often are designing the mechanical systems as they install them. The most common example of this would be in the residential construction market. … All of our members that perform service work are required to walk on to a job site, assess the problems, and then repair or replace existing components as need, [sic] or replace the entire systems if that is what it takes to get the customer back online. Most often this is done without supervision and must be code compliant when finished."[86] Several commenters state that although skilled workers are not required by law to have an in-depth knowledge of the code, in reality they need to know it in order to efficiently do

their job. Jack Hettwer, a member of the Minneapolis Plumbing Joint Journeyman and Apprentice Training Committee, states that "[e]ven if the Department does not feel that the workers would be required to do anything to update their knowledge of the codes, these people are professionals, and they know what their jobs are and how important it is for them to know the code."[87]

53. Several projects have already been completed under the I-Code in Minnesota, for example, in Brooklyn Park and Maple Grove. The Department states: "[I]f skilled workers have not as yet received [the] 'retraining' yet as the coalition contends, then how are these IMC projects being completed successfully by union personnel? The Agency believes that the extensive training required for the skilled worker to be able to work under the IMC does not impact him or her as significantly as the coalition contends. These successful IMC projects testify to the fact that the project can be handled by that segment of the industry without extensive training on it."[88] However, there is no evidence in the record related to how efficiently the projects were completed, or how much oversight by core personnel was needed.

54. In support of the Department, Steve Torell, a Building Official for Chanhassen states that "[t]he argument that the changes to the IMC will cost contractors millions of dollars to re-train their employees is simply not true. The changes to the technical requirements are minimal. The majority of contractors and people in the field don't even have code books; they are basically trained in the code requirements by the inspection personnel they come in contact with."[89]

55. It appears that the level of actual code knowledge varies from skilled worker to skilled worker, depending on several factors, such as the employer, the job site and personal interest in furthering his or her job skills. The level of code knowledge required ranges from the legal minimum (which is none in most jurisdictions in Minnesota) to what employers' require, which may be an in-depth knowledge. It is clear that some skilled workers do feel a need to be conversant with the code. It also seems to be the case that many provisions of the UMC and the IMC are similar, so that retraining does not involve a complete reeducation.

56. The APA and the OAH rules[90] require that the SONAR set out a description of those who will bear the cost of the rules and the possible cost of complying with the proposed rules. The agency is required to ascertain this information to the extent it can do so through reasonable effort. The requirement appears to be directed towards requiring an agency to carefully consider cost and to encourage a public discussion about the cost of the rule, as occurred in this proceeding. The Department is not required to prove the exact costs of implementation, however. And the cost of the rule would not necessarily be a determining factor in whether the rule has been shown to be needed and reasonable or not arbitrary.[91] But given the information in the record disputing the high cost predictions, as described above, it cannot be concluded that the cost of the proposed rule renders it arbitrary. One commenter suggested that 10 years of savings had occurred due to not buying new books or retraining for the 1991 Code. Other commenters pointed out, retraining from the 1991 Code will be costly anyway, and some additional cost would be expected with the

adoption of a new code. The comments that suggest the conclusion that the cost will be reasonable are credible and rational.

Agency's Use of Advisory Committee

57. As discussed in the analysis of the regulatory factors, section D above, the Department engaged the MCAC to perform a detailed review of the IMC and the UMC. Several members of the MCAC, including Marty Strub, Jack Hettwer, and Todd Gray, each supported the adoption of the UMC and testified to their frustration over the Department's approach to choosing the IMC. Specifically, Mr. Strub felt that the MCAC's work supporting the UMC was entirely disregarded by the Department, which Mr. Strub suggests had already made up its mind as to adopt the IMC.[92] Allen Inlow of the International Association of Plumbing and Mechanical Officials (IAPMO) expressed a similar opinion regarding the Department's apparent bias in favor of the IMC.[93]

58. In defense of its position, the Department cites Minn. Stat. § 14.101, which does not require the formation of an advisory committee prior to rule promulgation.[94] No laws or rules govern the use of advisory committees. In this instance, the Department did solicit and utilize the advice of the MCAC. The Department further contends that the dissatisfaction expressed by these former members of the MCAC is political in nature and does not go to the technical aspects of the codes.[95] Because both the IMC and the UMC are published by private entities, financial gain or loss will always be a point of contention. The Department maintains that, pursuant to its statutory authority, it must choose the code that upholds the health and safety of the public at the least possible cost.

Major Changes/Differences Between the Current and Proposed Code

59. This point of contention elaborates on the Department's discussion of performance based and regulatory factors as discussed above. Allen Inlow of IAPMO and Marty Strub disagreed with the Department's assessment of the IMC as more performance based and less restrictive than the UMC.[96] Mr. Inlow cites to the 2000 UMC, which allows for alternate materials and methods of construction given appropriate authorization by the administrative authority; and he claims that the Department mischaracterized his statements about the prescriptive nature of the UMC.[97]

60. In defense of the UMC, IAPMO is particularly proud of the UMC's recent certification and designation as the American National Standard by the American National Standard Institute (ANSI).[98] Only one code or standard within a particular scope can be designated as an American National Standard after going through a three-year open consensus process.

61. Mr. Inlow questioned the Department's calculation of the number of amendments required in relation to each code, and noted that the IFGC amendments are not even factored in to the Department's number.[99] Mr. Inlow points out that the

UMC contains fuel gas provisions within its text, while the IMC does not, thereby requiring the purchase of two code books instead of one.

62. Mr. Strub noted the differences between the IMC and the UMC as to the code development process.[100] He stated that the ICC does allow any interested party to voice their concerns and opinions at the "I" Code development hearings, but only allows a limited number of building officials to vote on the proposed changes. By contrast, Mr. Strub states that the UMC follows the same process, but ultimately allows all interested parties to participate in the vote.

63. Representatives of the ICC defend the "I" Code development process as an open, inclusive and balanced consensus process with built-in safeguards to prevent domination by any single interest.[101] Specifically, this process, called the governmental consensus process, is based on openness, transparency, balance of interest, due process, an appeals process and consensus. David Conover of the ICC, clarified and detailed the "I" Code development process to demonstrate how multiple votes, multiple hearings, open public comment, and a final vote by financially disinterested governmental members of the ICC make the process fair and open.[102]

64. ICC representatives also discussed important technical differences between the IMC and UMC where the UMC fails to coordinate with other "I" Codes already adopted by the Department and would require significant amendment.[103] Examples of these topics include ventilation and indoor air quality (health), smoke separation (occupant safety), alternative refrigerants (energy and environment) and cutting and notching limitations to accommodate mechanical systems (structural). ICC representatives further argue that the differences between the codes are directly related to clarity and guidance of regulated parties, making compliance with the "I" Codes easier than compliance with the UMC.[104]

65. The Department's response to these comments is that in the major areas of regulation, the performance based standards and the development processes, the two codes are substantially the same, and therefore the transition to the IMC should be relatively seamless.[105] The Department also points out that it is the 2003 UMC that is ANSI accredited, not the 2000 UMC, and that ANSI accreditation is not a requirement for a model code to be adopted by reference.[106]

Value of Implementing a Family of Codes

66. Currently in Minnesota, the Building Codes and Standards Division has adopted the 2000 International Building Code (IBC) and the 2000 International Residential Code (IRC), and the State Fire Marshal Division has adopted the 2000 International Fire Code.[107] These codes were published by the International Code Council, as are the IMC and IFGC. The Department states that the IMC and IFGC are part of a family of international codes promulgated by the International Code Council and considered for adoption in Minnesota.[108] The Department states that the possibility of coordination with other Minnesota I-codes makes the IMC and IFGC a favorable choice.[109]

67. Several commentators reiterated this point of view as well. Brad Swanson, the North Mankato Building Official, states "[t]he State Building Code, Energy Code and Fire Code all reference [the IMC and IFGC] manuals. If these codes are not adopted they would have to be revised to tell us what else we would have to use.[110] Roger Axel, a member of the Minnesota Building Officials states the IMC and IFGC would coordinate with the IBC and IRC, already adopted in Minnesota.[111] Mike Bunnell, inspections manager for Brooklyn Park and Dale Gronberg, certified building official for Brooklyn Park, Minnesota, note that the I-Codes reference each other.[112] Merwyn Larson, Building Official for Minneapolis, believes that a coordinated family of codes is important.

68. Additionally, the Department states "[t]he Agency strives with every adoption to reduce the number of necessary amendments to the codes. Adopting coordinated codes is one way to assist in that regard."[113] "The Agency further believes that this effort is a very important step toward streamlining government regulation, which has been both a federal and state level goal for quite some time. With a family of coordinated codes that are meant to work in harmony with each other … the nation would be well on its way toward reducing the multitude of code regulation from state to state, locality to locality."[114] The Department also states that fewer amendments to the IBC, IFC (already adopted in Minnesota) are needed if the IMC is adopted in Minnesota due to their coordination.[115]

69. Bill Daly, a pipefitter and a mechanical inspector expressed doubt that a family of codes was needed.[116] Allen Inlow, with IAPMO, argued that amendments to the codes prevent their being perfectly harmonized anyway.[117] And Gary Thaden, with the Minnesota Mechanical Contractors Association, stated that the building code only applies in 20 of 87 Minnesota counties, so that uniformity will not prevail anyway.[118] David Johnson points out that South Dakota recently adopted the UMC, so there will not be uniformity with surrounding states.[119] However, it does not appear that the UMC is as coordinated with the IBC or the IRC or that it would be as efficient to amend the UMC to cross-reference the IBC and IFC. The Department has produced sufficient facts to show that a family of codes is a positive factor in demonstrating the need for and reasonableness of the proposed rules.

Necessity for a New Mechanical Code Now

70. In the course of his comments, Marty Strub also urged the Administrative Law Judge and the Department to table the code adoption until the 2003 versions of the codes are finished so that new, unbiased consideration might be given the two codes.[120]

71. The Department responds that the need to adopt a new mechanical code is immediate because 1) a new energy code cannot be adopted until a new mechanical code is in place,[121] 2) the use of the old code is reducing building development ratings across the state by the Insurance Service Organization, and 3) the 1991 UMC is out of print and no longer available for purchase.[122]

Conflict of Interest

72. Anthony Rohrer of the United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada, called into question the Department's judgment in choosing the IMC over the UMC.[123] The Association notes that in 2000 and 2001, Thomas Anderson, Assistant Director of the Building Codes and Standards Division, was on the Board of Directors for ICBO, a strong advocate for the "I" Codes. The United Association views Mr. Anderson's joint role in both the Department and ICBO as a conflict of interest in violation of the Department's ethics policy.[124] The Association argues that ICBO is a potential vendor of the State with a clear financial interest in which code is adopted, and that Mr. Anderson should have removed himself from the situation. The Association further suggests that the Department received improper gifts from the ICC during the time the Department was considering which mechanical code to adopt,[125] openly supported the "I" Codes in Wisconsin prior to the formation of the MCAC in Minnesota,[126] provided free exhibition space to the ICC,[127] and openly promoted ICC functions in its electronic newsletter.[128]

73. The Department refutes the United Association's allegations arguing that the members of the Department who allegedly received benefits from the ICC were ultimately not the individuals who decided which code to adopt.[129] The Commissioner of Administration was the final decision maker. And the Department points to past relationships with ICBO, IAPMO, and the NFPA, all similar in nature to the one the United Association contests as improper, during the time those organizations had codes under the Department's consideration. This issue is not relevant to the matters required to be considered in this rulemaking proceeding under the APA.

Summary of General Objections

74. The Department's policy choice was to select the IMC and the IFGC over the UMC. The issue that the APA requires be considered by the Administrative Law Judge in this proceeding is whether the rulemaking record as a whole shows that that decision was arbitrary. In the language of the Minnesota Supreme Court, the Department must explain what evidence it is relying on and how that evidence connects rationally with its policy choice.[130] The Department points to factors such as the general acceptance of the IMC, its performance based standards, the need for fewer amendments, the value of coordination with other Minnesota "I" Codes, and its acceptance by building officials and mechanical contractors. The record does also demonstrate strong support for the UMC on the part of the trades and contractors. However, it must be concluded that the Department has made an affirmative presentation of facts and argument in support of its policy choice. It has rationally linked its evidence to its decision and shown that its choice is not arbitrary. Whether or not it is the best policy choice is within the agency's discretion. The Department is obligated to review the full rulemaking record before proceeding to adopt the rules.

Discussion of Proposed Rules by Subpart

75. The Department adopted a number of suggested amendments to the rules, proposed by various trade associations, organizations and individuals, as well as minor changes made on its own initiation.[131] These amendments do not result in rules that are substantially different from the rules as originally proposed.

1346.0101, IMC Section 101, Scope

76. This section was one of ten in the IMC that required amendment to include the necessary administrative information critical for the enforcement of the Minnesota Mechanical Code. It defines the scope of the code to regulate new and existing mechanical systems, including all parts of those systems that provide climate control and related processes within buildings. The section makes specific reference to process piping, defined as piping or tubing which conveys gas, liquid, or fluidized solids in laboratory and research settings.

77. Eugene Goddard, Bioscience Industry Specialist for the Department of Employment and Economic Development, explained Governor Tim Pawlenty's Bioscience Initiative and how it seeks to bring bioscience jobs to Minnesota.[132] Mr. Goddard's comment relates to inspection of process piping in the bioscience industry, a crucial part of the development of new bioscience products, which raises the issue of "trade secret information." Mr. Goddard and a group of individuals representing the biopharmaceutical industry, mechanical contractors, plumbers' union, pipe fitters' union, the University of Minnesota, and the Department met and discussed this issue and recommend that the following sentence be added to the end of this section: "For the purposes of this section, refer to MN Stat 13.37, Subd. 1, b on disclosure of non-public data." The Department will amend the section as recommended, and the amendment will not result in rules that are substantially different from those originally proposed.[133] The rule is needed and reasonable as modified.

1346.0301, IMC Section 301.4, Listed and labeled

78. Both the IMC and IFGC have specific requirements for appliances listed and labeled to an appropriate standard by a nationally recognized testing laboratory qualified to evaluate the appliance, but neither code has adequate provisions for unlisted equipment. This section was amended to include language requiring unlisted equipment to comply with appropriate standards routinely accepted by building officials and commonly used in the HVAC industry.

79. The Gas Appliance Manufacturers Association (GAMA), suggested two changes within this section to clarify that the IMC portion of the code regulates only electric, oil- and liquid-fired appliances, while the IFGC regulates fuel gas appliances; and to edit the phrase "unlisted appliances" to "unlisted boilers" in compliance with the requirements of ASME CSD-1 and NFPA 85, two codes referenced in the text of the proposed rules.[134]

80. The Department declined to modify this section, relying on its revised SONAR and the lack of need for clarification.[135] Although the rule is needed and

reasonable as proposed, more clarity may be useful. Such clarification of this section would not make the rules substantially different from the rules as originally proposed.

1346.0501, IMC Section 501.4.1.1, Carbon monoxide detector

81. This section is one of eleven consecutive sections in the IMC addressing pressure equalization in commercial applications.[136] The Department saw fit to amend these particular sections to increase clarity and decrease ambiguity. The 2002 Legislature passed a bill that requires these types of provisions to be included in the Minnesota Mechanical Code (MMC). The Minnesota Energy Code (MEC) also addresses issues such as carbon monoxide detectors in relation to tightening up the exteriors of homes and minimizing infiltration back into dwellings to promote energy conservation. The Department borrowed this similar position and inserted it into the IMC. The requirement is restricted to when new atmospherically vented appliances are installed.

82. GAMA and the National Electrical Manufacturers Association (NEMA) both offered input regarding this section. GAMA proposed the following modification to the Department's amendment to the IMC:

> "~~When any atmospherically vented appliance is installed in a new dwelling,~~ a carbon monoxide detector complying with UL Standard 2034 shall be installed in accordance with the manufacturer's installation instructions."[137]

The basis for GAMA's proposal was that carbon monoxide can come from a number of different sources other than atmospherically vented appliances, and therefore, CO detectors should be installed in all new homes or buildings.

83. NEMA proposed that CO alarms as well as detectors be referenced in the amendment.[138] Additionally, NEMA suggested that CO alarms and detectors be installed in accordance with NFPA 720, Recommended Practice for the Installation of Household Carbon Monoxide Warning Equipment, and that NFPA 720 be added to the IMC's referenced standards in 1346.1500. NEMA praised the Department for including a requirement for CO detectors and stressed the enhanced life safety in dwellings where detectors are present.

84. In response to these comments, the Department deleted section 501.4.1.1 in its entirety, commenting that it was following GAMA's proposal.[139] Notice of this change was distributed to interested parties along with the Notice of Continuance of Hearing. At the hearing on February 6, 2004, the Department explained the deletion of the provision by noting that the CO detector amendment was borrowed from, and essentially duplicated, the Minnesota Energy Code provision.[140] At the hearing and during the subsequent comment period, no party objected to this change, orally or in writing. The Department subsequently corrected itself, noting that it did not agree with GAMA's proposal in its entirety and that it did intend to delete the entire section, as opposed to merely the first phrase. All interested parties had adequate notice and

opportunity to respond to the Department's deletion and misstatement as to agreement with GAMA. The deletion of section 501.4.1.1 does not make the rule substantially different because the substance of the rule is also contained in the Minnesota Energy Code at Minnesota Rules part 7672.0900, subp. 8.B.

1346.0501, IMC Section 501.4.2.5, Separate makeup air and combustion air openings

85. This is another of the eleven sections regarding pressure equalization. It states that when both makeup air and combustion air openings are required, they shall be provided through separate openings to the outdoors. An exception allows the building official to approve combination makeup air and combustion air systems.

86. Arthur A. Daniel, an interested citizen from Rochester, Minnesota, expressed concern about whether or not it is necessary to have separate openings for makeup air and combustion air.[141] Mr. Daniel did not see a reason for separate openings, specifically in a detached residential structure or if the ventilation equipment in use is designed to meet the needs of both makeup air and combustion air. Furthermore, Mr. Daniel felt that ambiguities existed between section 501.4.2.5, section 501.4.3 and table 501.4.1 that call into question the need for separate openings.

87. The Department's response is that separate openings are required by section 501.4.2.5 and that table 501.4.1 only addresses the determination of makeup air quantity for exhaust equipment in dwellings.[142] The sections and table in question work together with MEC chapters 7670 and 7672, as referenced in the sections, to create a reasonable design methodology. The sections as amended are needed and reasonable.

1346.0501, IMC Table 501.4.2, Makeup air opening sizing table

88. As discussed above in relation to carbon monoxide detectors, the Department made amendments to a series of sections of the IMC regarding pressure equalization in both commercial and residential construction.[143] Pressure equalization in residential construction primarily consists of providing adequate makeup air opening to ensure that the dwelling is not under excessive negative pressures, which can create unacceptable health, safety and durability issues caused by moisture, radon and other soil gases being drawn into the space, increased levels of contaminants due to infiltration from attached garages, and backdrafting of combustion appliances. As the amount of makeup air (cfm) increases, table 501.4.2 requires progressively larger openings, and at a certain point motorized dampers are required on openings in excess of 8 inches to appropriately regulate makeup air flow. The IMC does not have prescriptive requirements regarding the amount of makeup air space, and this has resulted in sporadic and inconsistent enforcement of mechanical ventilation.

89. Marty Strub, Sheet Metal Workers Local 10 and a member of the MCAC, testified about motorized dampers and how they should be required based upon the amount of air infiltrating back into a dwelling as opposed to the size of the makeup air

opening.[144] Mr. Strub argues, for example, that a 6 inch opening that brings in more air should require a motorized damper more than an 11 inch opening that brings in less air. He suggests that the Department's system of mandating motorized dampers based on opening size will result in increased complaints from building occupants who experience excessive infiltration of air from the outside.

90. The Department seeks to maintain the current table to ensure adequate ventilation of residential and commercial spaces.[145] The tables are based on the residential blower door strategies used to calculate air change rates in dwellings. Furthermore, many requirements from the most recent residential Minnesota Energy Code, chapter 7672, were incorporated. The table assumes dwellings have a house leakage curve with an exponent of 0.65, which was used to determine the various pressure factors. The Department also conducted testing on new clothes dryers with different venting configurations to determine typical exhaust airflow. The Department has made an affirmative presentation of facts showing the need and reasonableness of the proposed rule.

1346.0510, IMC Sections 510.1, General; 510.4, Independent system; 510.7, Suppression required

91. The Department did not propose amendments to any of these three IMC sections.

92. Ron Holden, Building Official at the University of Minnesota, proposed changes to IMC sections dealing with hazardous materials.[146] In section 510.1, Mr. Holden suggested adding an exception excluding laboratory ventilation systems that comply with NFPA 45 from the hazardous materials requirements. NFPA 54 is the nationally accepted standard regulating fire protection for labs using chemicals.

93. Mr. Holden proposed the following amendment to section 510.4: "Hazardous exhaust systems <u>where the duct is under positive pressure</u> shall not share common shafts with other duct systems . . . ." The basis for this suggestion is that a system under negative pressure won't leak contaminants to a non-hazardous area of the system.

94. Finally, Mr. Holden proposed to add two exceptions to when fire suppression systems are required within duct systems: 1) Ducts with a cross-sectional diameter of less than 10 inches, and 2) laboratory hoods or exhaust systems having interiors with a flame spread index less than 25 and a ventilation system installed according to NFPA 45. The 10-inch exception matches exceptions in the adopted 2000 IBC and IFC. And NFPA 45 does not require a fire suppression system for a typical laboratory ventilation system.

95. While the Department did not originally propose amendments to IMC section 510, it supports the inclusion of reference to NFPA 45, which is an industry design standard used throughout the world.[147] The Department's response dated February 26, 2004, did not clearly convey whether or not all three suggestions were

accepted, but subsequent communication with the Department has verified its agreement with each of the three proposals and its intent to incorporate those changes. These amendments do not make the code substantially different than was originally proposed. It is needed and reasonable.

1346.0603, IMC Sections 603.3, Metallic ducts, and 603.9, Supports

96. Section 603.3 states: All metallic ducts shall be constructed as specified in the SMACNA HVAC Duct Construction Standards – Metal and Flexible. The Department has not proposed any amendments to IMC section 603.9.

97. David Olson, Sr. Mechanical Inspector for the City of St. Paul, proposed changes to these two sections regarding duct construction standards.[148] Specifically, he suggested that multiple SMACNA duct construction tables be incorporated into the IMC amendments so that light commercial sheet metal installations are covered prescriptively.

98. The Department agrees with Mr. Olson's suggestions, but declines to incorporate them into the IMC due to copyright issues and possible coordination and consistency issues that could arise throughout the IMC.[149] The Department suggested that Mr. Olson work with the Association of Minnesota Building Officials (AMBO) and the ICC to incorporate these standards after obtaining permission from the publisher of the SMACNA tables. The rule is needed and reasonable as proposed.

1346.0901, IMC Section 901.5, Unvented heaters and appliances

99. See discussion of IFGC Sections 602.3 and 620.1 below.

1346.1601-.1606, IMC Sections 1601-1606

100. These amended sections contain the requirements for "Installation and Testing of Oil or Liquid Fuel-Fired Equipment" to supplement the provisions in the IMC.[150] Proper installation, startup and minimum efficiency requirements of this type of equipment are also detailed.

101. GAMA commented that Section 1601, General, is unclear as to whether the section applies to listed commercial and/or residential equipment, and thereby raises the issue of federal preemption. GAMA pointed out that federal regulation preempts the efficiency requirements in Chapter 1600 as to residential and commercial gas- and oil-fired appliances,[151] and that the one exception to the federal regulation that allows state or local building codes to specify efficiency requirements cannot be fulfilled by the IMC and the IFGC as amended.

102. The Department agreed with GAMA's position and will add an exception to 1346.1601 that does not require listed and labeled equipment and appliances to comply with the provisions in these sections.[152]

1346.5304, IFGC Section 304.6.3, Mechanical combustion air supply

103. This section requires that where combustion air is provided by the building's mechanical ventilation system, the system shall provide the specified combustion air rate in addition to the required ventilation air. The Department's SONAR discusses this section as one of twenty and references Appendix E to the IFGC for the calculation of combustion air requirements in new and existing dwellings in Minnesota.

104. Arthur Daniel questioned how this section and IMC section 501.4.2.5 appeared to contradict each other. See also the discussion of IMC Section 501.4.2.5 above. This section is appropriately cross-referenced in IMC section 501.4.2.5, and is needed and reasonable.

1346.5404, IFGC Section 404.7, Above-ground piping outdoors

105. The Department did not propose any amendment to this section of the IFGC.

106. Barry Riven, a Heating Inspector for the City of Bloomington, proposed amending this section to read: "Piping installed above ground outdoors shall be securely supported and located at three inch minimum above finished grade, and where it will be protected from physical damage."[153]

107. The Department agreed with Mr. Riven that an above-ground height clarification was necessary, but that it should be 3 ½ inches above ground. No explanation is offered for the ½ inch height difference.[154] The Department will amend this section accordingly. This amendment is not substantially different from the rule as originally proposed, and in fact, adds clarity to section 404.7. It is needed and reasonable.

1346.5406, IFGC Section 406.4.1, Test pressure

108. This section limits the amount of test pressure allowed while testing various systems.

109. GAMA suggested adding a sentence to this section requiring appliances to be isolated from piping systems under test by capping the system upstream of the appliance shutoff valve.[155] According to GAMA, appliance controls, especially residential appliances, are not equipped to handle excessive test pressures, which can result in repair or replacement of those appliances.

110. The Department asserts that other sections of the IFGC appropriately address this concern and that it is not necessary to duplicate that information in section 406.4.1. The rule amendment, as proposed, is needed and reasonable.

1346.5406, IFGC Section 406.4.2, Test duration

111. This section reduces the system test duration from 12 hours to no less than 30 minutes. But with approval from the building official, test duration may be reduced as low as ten minutes in a single-family dwelling. The Department remarked that many enforcement problems have resulted from this prolonged testing period due to slight changes in temperature that can cause gas pressure levels to drop even if there are no leaks in the system. Consequently, many contractors have performed unnecessary retesting of systems.

112. Barry Riven objected to the reduced testing duration. Drawing on his experience as an inspector and a contractor, he supported the 12-hour testing period and most strongly objected to the possibility of the test lasting only ten minutes. He stated that he has seen tests fail after an hour or two where tubing has been installed inappropriately or carelessly.[156]

113. Marty Strub, Sheet Metal Workers Local 10 and a member of the MCAC,[157] also objected to the shortened length of the testing duration. Mr. Strub described a gas line pressure test that he performed at his home that failed to detect a gas leak within six hours, but that detected a leak after eight or more hours. Both commenters expressed concern for the safety of both building occupants and buildings if the test duration was reduced to such a short time.

114. The Department further defended its position by pointing out that a testing duration of 30 minutes is consistent with other model codes used throughout the country for over 30 years.[158] It also notes that the requirement for test gauges in Section 406.4.3 results in a more accurate gas pressure test and is also consistent with other model codes used throughout the country. The rule amendment, as proposed, takes into account the commenters' safety concerns by relying on other model codes that undoubtedly consider the safety of building occupants and buildings. It is needed and reasonable.

1346.5602, IFGC Sections 602.3 and 620.1

Unvented Gas Appliances

115. Proposed Minn. Rule pt. **1346.5602** subp. 2 amends section 602.3 of the International Fuel Gas Code (IFGC) to provide that unvented decorative appliances shall not be installed in any dwelling or occupancy. Proposed Minn. Rule **1346.5620** amends the IFGC by providing that unvented room heaters and unvented decorative appliances shall not be installed in any dwelling or occupancy. In its Statement of Need and Reasonableness the Agency states as follows:

> Unvented heaters and unvented decorative appliances generate products of combustion that are not vented out of the room in which they are installed. Primary constituents of the products of combustion includes carbon dioxide, water vapor and nitrogen oxides-all of which can have an adverse effect on building materials, furnishings and occupants in the building. Energy efficient buildings located in Minnesota are not capable

> of tolerating high levels of relative humidity due to the likely formation of condensation on windows and exterior walls, which can create mold, mildew and even structural issues. Until more is learned about controlling moisture levels in cold climate buildings, it is unacceptable to allow the use of these types of appliances that will likely be operated on a regular basis for extended periods of time.[159]

The agency notes that these proposed rules are nearly identical to the requirements in the mechanical code currently in effect in Minnesota.

116. The Vent Free Gas Products Alliance of the Gas Appliances Manufacturers Association (GAMA) represents some 20 manufacturers of unvented gas products. GAMA supports deletion of the two provisions prohibiting unvented gas appliances. They note that the national fuel gas code and the international fuel gas code permit installation of these products and state that the products are legally used in 48 states. They argue that the safety performance of unvented appliances, since the introduction of the oxygen depletion safety pilot, has been exemplary. They state that all unvented appliances are tested in accordance with ANSI standards including periodic testing of production units by the manufacturer.[160]

117. GAMA submitted two studies concerning moisture and humidity related to these appliances. One, The Effect of Properly Sized and Operated Vent-Free Gas Products on Indoor Air Quality[161] suggests that emissions of unvented gas heaters fall well below nationally recognized indoor air quality exposure limits for CO, NO_2, carbon dioxide, oxygen and water vapor even when used for extended periods of time. The other study, Assessment of the Potential Impacts of Vent-Free Products on Indoor Relative Humidity,[162] suggests that for the vast majority of homes in the U.S., unvented gas appliances do not contribute to excessive indoor humidity. GAMA also argues that the agency has presented no technical basis to support its proposed rules.[163]

118. The Builders Association of Minnesota (BAM) represents the home building and remodeling industry in Minnesota. It opposes allowing unvented gas appliances to be installed in newly constructed homes in Minnesota because they create moisture that can decrease a home's overall durability, due to interior moisture damage. It suggests that data based on national codes should be disregarded because of the stringency of Minnesota's residential energy codes.[164] Hearth and Home Technologies supported the rules and asserted that as homes are built more tightly, concentrations of harmful byproducts will increase and water vapor will contribute to levels of mold increasing. It states that while levels may stay below any immediate level of concern, the long-term exposure of the levels is not known.[165] Michael Nordby, Brownstone Distributing, Hearth Products, agreed with Mr. Hawkinson.

119. Paul Stegmeir, a consultant and writer on unvented appliances pointed out that Minnesota is one of the coldest states and suggested that most of the data put forth by GAMA looked at warmer heating regions. He noted that Minnesota has one third of its area outside of the regions studied. He supported the proposed rules.[166] In a post-hearing written submission Mr. Stegmeir pointed to a critique of GAMA's indoor air

quality study which noted that relative humidity from many heater use conditions are likely to reach levels which could encourage the growth of allergenic organisms and result in structural damage to homes. Mr. Stegmeir points out that while New York accepted the use of this type of appliance, it was only allowed to be used in a space that could not communicate with the rest of the home. As to the indoor relative humidity study cited by GAMA, Mr. Stegmeir noted that about 60% of the appliances available must be turned down by the users themselves to remain within the predicted ranges in the study. Mr. Stegmeir believes that although conditions for about one-third of Minnesota have not been modeled, that dwellings and conditions in this area would find unvented appliances to be problematic for moisture-related problems. He also states that potential emission problems for each chosen pollutant becomes more likely in colder regions. Mr. Stegmeir's comments were supported by technical articles he has written for Hearth and Home magazine concerning unvented appliances and their impact on indoor relative humidity.[167]

120. In its post-hearing comment the Building Codes and Standards Division states that it is standing by its original proposed rules that disallow the installation and use of unvented appliances. It cites comments of Mr. Hawkinson, Mr. Nordby and Mr. Stegmeir in support of its decision. It also notes that Mr. Stegmeir states that there is no assurance that sizing guidelines are utilized to purchase an appropriate-sized appliance, which means that there is no assurance to the consumer that he or she will be safe and protected with this product.[168]

121. It might be concluded that the agency does not need to demonstrate the reasonableness of its rule in this proceeding since its prior rule in the existing code is virtually the same. Under Minn. Rule pt. 1400.2070, subp. 1 an agency need not demonstrate the need for and reasonableness of existing rules when adopting amendments not affected by the proposed amendments. However, since the Building Code Division is adopting an entirely new code rather than amendments, an affirmative presentation in support of all of the proposals is likely required by the Administrative Procedure Act.

122. However, the agency has made an affirmative presentation of facts establishing the need for and reasonableness of its continued prohibition on the use of unvented gas appliances. When reviewing the information submitted by the agency as well as that of all of the commenters, it cannot be concluded that the rules as proposed are arbitrary. The agency points to Minnesota's cold climate and tighter construction of buildings as reasons to distinguish its rule from that of other states. It has submitted data suggesting that GAMA's studies may not be applicable. The Division has explained the evidence upon which it is relying and how that evidence connects rationally with its choice of action. Whether the proposed rules are the best policy choice is a matter outside the jurisdiction of the Administrative Law Judge, but is reserved to the agency. The agency will examine the full rulemaking record before coming to a decision.

1346.5629, IFGC Section 629.3

123. See discussion of IFGC Sections 602.3 and 620.1 above.

1346.5801-.5807, IFGC Sections 801-807

124. These amended sections contain the requirements for "Installation and Testing of Fuel Gas-Fired Equipment" to supplement the provisions in the IFGC.[169] See the discussion of IMC Section 1601-1606 above regarding federal preemption.

Agency Discretion

125. Four rules raise the question of whether they grant the building official "unfettered discretion" without a clear standard to guide the official so that application of the rule could result in arbitrary enforcement.[170] Two rules (1346.0501, IMC Section 501.4.2.5 and 1346.5304, IFGC Section 304.8 (11)) allow exceptions to a rule when "approved by the building official" without any criteria for approval. These defects can be corrected by adding the phrase "where they are reasonably equivalent in terms of health, safety and durability."

126. Rule 1346.5804, IFGC Section 804.1 (8) allows an exception "by special permission from the building official." This defect can be corrected by adding the following sentence after the quoted phrase: "The building official shall consider whether an exception will provide equivalent safety." Rule 1346.5805, IFGC Section 805.1 (8) allows an exception where there is an approved oxygen trim system on the burner that is designed for that use, including a low oxygen interlock "when approved by the building official." This defect can be corrected by adding the sentence suggested above after the quoted language. The Department is free to suggest alternative language to correct the defects that would accomplish the same purpose.

Recommended Technical Corrections

127. The Administrative Law Judge recommends the following technical corrections to the rules:

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1346.5304, IFGC Section 304.7.1, Motorized louvers

128. "Motorized louvers shall be interlocked with the equipment so they are proven in the full open position prior to main burner ignition and during main ~~main~~ burner operation."

1346.5404, IFGC Section 404.11, Piping underground beneath buildings

129. “Piping installed underground beneath buildings is prohibited except where the piping is encased in a conduit of wrought iron, plastic pipe, or steel pipe designed to withstand the superimposed loads and with prior approval of the building official.”

1346.5805, IFGC Section 805.1, Method of test, 7. Oxygen concentration

130. “a. The concentration of oxygen in the undiluted flue products of gas or fuel burners shall in no case ~~by~~ be less than 3 percent nor more than 10 percent . . . .”

Revisor Correction to Title Attachment Page

131. “Incorporations by Reference”, ~~Marriam~~ Merriam-Webster Collegiate Dictionary.

Based upon the foregoing Findings of Fact, the Administrative Law Judge makes the following:

CONCLUSIONS

1. The Department gave proper notice of the hearing in this matter.

2. The Department has fulfilled the procedural requirements of Minn. Stat. § 14.14 and all other procedural requirements of law or rule.

3. The Department has demonstrated its statutory authority to adopt the proposed rules and has fulfilled all other substantive requirements of law or rule within the meaning of Minn. Stat. §§ 14.05, subd. 1; 14.15, subd. 3; and 14.50 (i) and (ii), except as noted in Findings of Fact Nos. 125 and 126.

4. The Department has documented the need for and reasonableness of its proposed rules with an affirmative presentation of facts in the record within the meaning of Minn. Stat. §§ 14.14, subd. 2 and 14.50 (iii).

5. The modifications to the proposed rules that were offered by the Department after publication in the State Register do not result in rules that are substantially different from the proposed rules as published in the State Register within the meaning of Minn. Stat. §§ 14.05, subd. 2 and 14.15, subd. 3.

6. Due to Conclusion No. 3, this Report has been submitted to the Chief Administrative Law Judge for his approval pursuant to Minn. Stat. § 14.15, subd. 4.

7. Any Findings that might properly be termed Conclusions and any Conclusions that might properly be termed Findings are hereby adopted as such.

8. A finding or conclusion of need and reasonableness in regard to any particular rule subsection does not preclude and should not discourage the Department from further modification of the proposed rules based upon an examination of the public

comments, provided that the rule finally adopted is based upon facts appearing in this rule hearing record.

Based upon the foregoing Conclusions, the Administrative Law Judge makes the following:

RECOMMENDATION

IT IS HEREBY RECOMMENDED: that the proposed rules be adopted, except where specifically otherwise noted above.

Dated this 30th Day of March 2004.

S/ George A. Beck
GEORGE A. BECK
Administrative Law Judge

Reported: Transcribed (2 volumes).

NOTICE

The Department must wait at least five working days before taking any final action on the rules. During that period, this Report must be made available to all interested persons upon request.

Pursuant to the provisions of Minnesota Rules, part 1400.2100, and Minnesota Statutes, section 14.15, subdivisions 3 and 4, this Report has been submitted to the Chief Administrative Law Judge for his approval. If the Chief Administrative Law Judge approves the adverse findings of this Report, he will advise the Commissioner of actions that will correct the defects. If the Department elects to make any changes to the rule, it must resubmit the rule to the Chief Administrative Law Judge for a review of those changes before adopting the rule.

However, in those instances where the Chief Administrative Law Judge identifies defects which relate to the issues of need or reasonableness, the Department may either follow the Chief Administrative Law Judge's suggested actions to cure the defects or, if the Department does not elect to follow the suggested actions, it must submit the proposed rule to the Legislative Coordinating Commission, and the House of Representatives and Senate Policy Committees with primary jurisdiction over state governmental operations for the advice of the Commission and Committees.

When the rule is filed with the Secretary of State by the Office of Administrative Hearings, the Department must give notice to all persons who requested that they be informed of the filing.

[1] Minn. Stat. §§ 14.131 through 14.20.
[2] Ex. A.
[3] Ex. A.
[4] Ex. B.
[5] Ex. B.
[6] Ex. E.
[7] Exs. G, H, I, J.
[8] Ex. L.
[9] Ex. F.
[10] Exs. X, Y, AA, and BB.
[11] Ex. Z.
[12] The Department has recently adopted other "I" codes, based upon the recommendation of the Minnesota Construction Codes Advisory Council (CCAC), a legislatively created body that advises state agencies on construction-related issues. Specifically, the 2000 International Building Code, the 2000 International Residential Code and the 2000 International Fire Code. Ex. V, (SONAR) pp. 1-2.
[13] A more thorough discussion of this decision-making process will be addressed in the analysis of the regulatory factors.
[14] A complete list and summary of the statutes relied upon by the agency are listed in the SONAR, pp. 3-4.
[15] Minn. Stat. § 14.131.
[16] Ex. V, p. 4. The Department lists numerous trade associations as examples of affected parties.
[17] Id. at p. 5.
[18] Id. at pp. 5-6.
[19] Id. at p. 6.
[20] Id. Those potential problems are explained in more detail in the SONAR.
[21] Id. at p. 7.
[22] Ex. V, p. 39.
[23] Id. at pp. 9-10.
[24] Id. at p. 11.
[25] Id.
[26] Minn. Stat. § 14.131.
[27] Minn. Stat. § 14.002.
[28] Ex. V, p. 13.
[29] Id.
[30] *Mammenga v. Department of Human Services*, 442 N.W.2d 786 (Minn. 1989); *Manufactured Housing Institute v. Pettersen*, 347 N.W.2d 238, 244 (Minn. 1984).
[31] In re *Hanson*, 275 N.W.2d 790 (Minn. 1978); *Hurley v. Chaffee*, 231 Minn. 362, 367, 43 N.W.2d 281, 284 (1950).
[32] *Greenhill v. Bailey*, 519 F.2d 5, 19 (8th Cir. 1975).
[33] *Mammenga*, 442 N.W.2d at 789-90; *Broen Memorial Home v. Department of Human Services*, 364 N.W.2d 436, 444 (Minn. Ct. App. 1985).
[34] *Manufactured Housing Institute*, 347 N.W.2d at 244.
[35] *Federal Security Administrator v. Quaker Oats Co.*, 318 U.S. 218, 233, 63 S.Ct. 589, 598 (1943).
[36] Minn. R. 1400.2100.
[37] Minn. Stat. § 14.15, subd. 3.
[38] Minn. Stat. § 14.05, subd. 2.
[39] Ex. 44, pp. 2-5.
[40] Minn. Stat. § 14.14.
[41] Ex. 43, p. 2.
[42] Ex. 47, pp.1-2.
[43] Ex. 7, p. 3.
[44] Ex. 43, p. 2.

[45] Ex. 43, p. 2.
[46] Minn. Rules pt. 1400.2070(1).
[47] Minn. Rules pt. 1400.2070.
[48] Minn. Stat. § 16B.59
[49] Ex. V, p. 11.
[50] Id. at p. 6.
[51] Ex. 48.
[52] Ex. 47, pp.1-2.
[53] Minn. Stat. § 16B.61, subd. 1.
[54] Ex. 7, p. 3.
[55] Minn. Rules, Part 1400.2070, subp. 1.
[56] Transcript, p. 166.
[57] Minn. Stat. § 14.131(2).
[58] Ex. V, p. 6.
[59] Minn. Stat. § 14.131(5).
[60] Minn. Stat. § 14.131(3).
[61] Ex. V, p. 6.
[62] Id. at pp. 6-10.
[63] Transcript, p. 118.
[64] Id. at p. 120.
[65] Id. at p. 122.
[66] Id. at p. 125.
[67] Id. at p. 118.
[68] Id. at pp. 166-67.
[69] Ex. 35; Transcript, p. 201.
[70] Transcript, pp. 148-49.
[71] Id. at p. 149.
[72] Ex. 37.
[73] Ex. 15.
[74] Ex. 17.
[75] Ex. 19.
[76] Ex. 26.
[77] Ex. 44, pp. 19-20.
[78] The Department is responsible for training building officials. Minn. Stat. 16B.65(3); Ex. 44, p. 3.
[79] Ex. 44, p. 10.
[80] Ex. V, p. 5.
[81] Transcript, p.115.
[82] Ex. 44, p. 15.
[83] Id.
[84] Id. at p. 3.
[85] Id. at p. 2. *See also* Minn. Stat. § 16B.65(4).
[86] Transcript, p. 140.
[87] Ex. 45, p. 2.
[88] Ex. 44, p. 16.
[89] Ex. 26.
[90] Minn. Stat. § 14.131; Minn. Rule pt. 1400.2070.
[91] Minn. Stat. § 14.14, subd. 2.
[92] Ex. 33; Transcript, pp. 83-89.
[93] Ex. 35.
[94] Ex. 44, p. 4.
[95] Id.
[96] Exs. 33, 35.
[97] Ex. 35, p. 7 and Attachment C.
[98] Ex. 6.
[99] Ex. 35, p. 4.
[100] Ex. 33.

[101] Ex. 12, p. 6.
[102] Ex. 40, pp. 2-3.
[103] Ex. 12, p. 4.
[104] Id. at Attachment C.
[105] Ex. 44, p. 4.
[106] Id. at p. 17.
[107] Ex. V, p. 2.
[108] Id. at p. 1.
[109] Id. at p. 8.
[110] Ex. 20.
[111] Transcript, p. 127.
[112] Id. at p. 131.
[113] Ex. 44, p. 5.
[114] Id. at p. 21.
[115] The amendments needed when adopting the IMC is almost half as many as adopting the UMC. Ex. V, p. 8.
[116] Transcript, p. 135.
[117] Id. at pp. 210-11.
[118] Id. at p. 214.
[119] Ex. 43, p. 3.
[120] Ex. 33.
[121] The 2002 Legislature passed a bill that requires residential makeup air provisions to be included in the Minnesota Mechanical Code to meet certain mandates of the Minnesota Energy Code (MEC) that require the MEC to tighten up construction to promote energy conservation. Ex. V. at pp. 18-19.
[122] Ex. 44, p. 5.
[123] Ex. 41.
[124] Id. at Attachment B.
[125] Id. at Attachment C.
[126] Id. at Attachment D
[127] Id. at Attachment E.
[128] Id. at Attachment F.
[129] Ex. 44, pp. 31-32.
[130] See Finding of Fact No. 26.
[131] Transcript, pp. 18-22, 104-11; Exs. P, T, U, and 44.
[132] Ex. 5.
[133] Ex. T; Ex. 44, p. 7.
[134] Ex. 3.
[135] Ex. V, p. 16; Ex. 44, p. 7.
[136] The SONAR does not address each of the eleven sections individually, but rather in a group, explaining the general need for provisions dealing with pressure equalization and makeup air provisions.
[137] Ex. 3.
[138] Ex. 9.
[139] Ex. T, Modifications to the proposed rules beyond those submitted at the public hearing on November 13, 2003.
[140] Transcript, pp. 105-06. Minn. Rules pt. 7672.0900, subp. 8.B.
[141] Ex. 42.
[142] Ex. 44, pp. 30-31.
[143] Ex. V, p. 18.
[144] Transcript, pp. 81-83.
[145] Ex. V, p. 18.
[146] Transcript, pp. 184-90; Ex. 30.
[147] Ex. 44, p. 24.
[148] Transcript, pp. 91-92; Ex. 8.
[149] Ex. 44, pp. 11-12.
[150] Ex. V, p. 25.

[151] Ex. 3. GAMA cites the Energy Policy Conservation Act (EPCA) as amended by the National Appliance Energy Conservation Act (NAECA) and the Energy Policy Act (EPAct).
[152] Ex. 44, p. 8.
[153] Transcript, p. 23.
[154] Ex. 44, p.6.
[155] Ex. 3.
[156] Transcript, pp. 23-24.
[157] Id. at pp. 142-43; Ex. 33.
[158] Ex. V, p. 28; Ex. 44, p. 6.
[159] Ex. V, p. 31.
[160] Transcript, pp. 24-32.
[161] Ex. 4D.
[162] Ex. 4C.
[163] Ex. 4A.
[164] Ex. 13.
[165] Ex. 39.
[166] Transcript, pp. 132-33.
[167] Ex. 44, Attachment C.
[168] Id. at pp. 6, 16.
[169] Ex. V, p. 32.
[170] See Minn. Rule pt. 1400.2100, D.; *Lee v. Delmont*, 228 Minn. 101, 113, 36 N.W.2d 530, 538 (1949); *In Re Appeal of Jongquist*, 460 N.W.2d 915, 917 (Minn. Ct. App. 1990).